



Communicating Sustainability Solutions Through Photojournalism

MSUS Culminating Experience Final Report



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Abstract

Strategies and interventions have promoted the sustainability of urban communities, but effective communication of these solutions is lacking. Documentation of current solutions tends to be dense and difficult for non-academics to understand. Sustainability scientists and practitioners need ways to meaningfully communicate their experiences to the lay public. This project sought to visually present sustainable community development solutions to address this communication barrier and to explore impacts of community gardens on people's well-being. Members of urban and community gardens in Phoenix and Tempe, Arizona, and Copenhagen and Aarhus, Denmark, were photographed and interviewed. Their feedback was examined to assess the degree to which photographs can tell a sustainability story.

The photographs focused on aspects of life and behaviors that contributed to happiness in local communities. A website was created and a gallery event was mounted for public review and discussion. Gallery attendees and website visitors were asked to complete a survey to assess gained knowledge of sustainability solutions and how effective a tool photography is as a means of sustainability solutions communication.

This visual medium allowed people think about how to incorporate sustainable solutions into their own lives and may have changed people's interest in, and thoughts about, overall sustainability. Survey results demonstrated that photographs can successfully communicate sustainability ideas. Specifically, viewers gained an increased awareness of how community and urban gardening can increase happiness, well-being, and sense of community. This visual approach can continue to be used to more successfully communicate additional sustainability solutions ideas and methods to the public.

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Introduction

Can photographs tell a holistic sustainability story? Will viewing such photographs incite change in people who saw them? Sustainable solutions thinking is a still-emerging field throughout the world. Defined by Charter and Tischner (2001, p. 17), “[s]ustainable solutions are products, services, hybrids or system changes that minimise negative and maximise positive sustainability impacts...” Unfortunately, there appears to be a lack of sufficient communication of what solutions have or have not worked for the urban sustainability of various communities, such as those in Copenhagen and Aarhus, Denmark, where part of this project took place.

Additionally, the problem is compounded by the fact that sustainable solutions documentation that does exist tends to be dense and difficult for non-academics to understand. What is missing is a way to communicate general ideas of sustainability solutions and successes to the lay public in a way that is meaningful and easily understood. This culminating experience project sought to evaluate and engage with real-world sustainability solutions, specifically surrounding community gardening and its relation to happiness, well-being, and community, in order to address this communication barrier.

This project’s goal was to confront this pervasive sustainability communication problem through my own photojournalistic efforts, allowing people with any educational or cultural background to see and understand different methods for achieving sustainability. This visually-focused medium can help people begin thinking about how they can incorporate these sustainable community solutions into their own lives. Greater awareness – tied to both environmental and justice issues – may be a first step towards behavior change and ultimately, increased happiness (as defined in the Literature Review section below). For example, it is possible that engaging these ideas (e.g., becoming involved in a community garden) will allow people to lead healthier and thus happier lives. While this internal awareness is an important component of my project, my focus is rather on increasing people’s immediate awareness of current sustainability solutions and opportunities.

To accomplish my project goal, I worked in two different geographic areas: Copenhagen and Aarhus, Denmark, and Phoenix and Tempe, Arizona. At both locations, I used my own photography to document community development solutions, mainly in community and urban gardens. While there, I interviewed members of community gardens to find out if they felt their overall happiness and well-being had increased since becoming part of the garden (see interview questions in [Appendix A](#) and response transcripts in [Appendix B](#)). The photographs I took focused on many aspects of the gardens, from the overall landscape to individual plots and gardeners. Upon visiting nine gardens, I chose the most successful photographs and created a website and gallery show event to display them and convey the information to the general public. Here, successful photos are defined as those that best demonstrate the essence of the garden and



Figure 1. Sharing knowledge. At the Byhaven 2200 garden in Copenhagen, Denmark, they have this communal bookshelf, which is available for anyone who stops by to utilize.

what it would be like to participate in them. The photographs from both the Denmark and Arizona cities establish global links and provide people with a perspective on how they can, in fact, change their lives to become more sustainable, at least in regard to the presented subject matter.

Although my project may not have transformed sustainability communication on a large scale, I argue it was a positive contribution to the communities involved. Further, my efforts can serve as a template or benchmark for future sustainability scholars and documenters to produce more content that successfully communicates sustainability solutions. It can also be used elsewhere to educate and motivate people about sustainable solutions. Increasing education can expose people, who might not otherwise care about it, to the positive impacts of sustainability. As a secondary contribution, when analyzing the environmental factors, stakeholders may become interested in gardening. Though small scale, this has beneficial impacts on resource use, wildlife and ecosystems, air quality, and urban heat, among others. Regarding economics, it could save stakeholders money in the long run if they grow their own produce, which would reduce trips to the supermarket and encourage the consumption of healthy foods. Lastly, the societal impact can be seen through improvements in stakeholder well-being and increased involvement in their communities.



Figure 2. Getting involved in gardening. A volunteer at Escalante Community Garden in Tempe, AZ harvests an eggplant by twisting its stem.

Context

In sustainability (and most academic fields for that matter), communication of ideas and proven methods tends to come from journal articles, white papers, and other formal documents. These are often dense and full of subject-specific jargon which can be difficult even for experts to interpret. If I, as a student who has been trained to read academic literature, can have trouble understanding the information, how can we expect the general public to comprehend it? For such a hands-on and presently-relevant field, this business-as-usual approach simply cannot continue if sustainable solutions information is to reach the public in a meaningful way that will foster interest, education, and positive action.

This project proposes an alternative method of communication: using visual methods, specifically photography, to change perceptions as a basis for influencing behaviors and make learning about these topics more accessible. This concept of visual learning is not new, but applying it to more complex and higher levels of information is arguably less explored.

Literature Review

Relevant articles were first located in database searches. I found the articles by searching words and phrases such as “happiness,” “communicating through the arts,” “Denmark’s happiness,” “community gardens,” and “community development.” Useful articles were vetted

based on their relevance to this project which was decided after reading the abstracts, introductions, and conclusions of each paper. Once it was clear they related to the project, the articles were analyzed more in-depth to pinpoint main ideas and quotes that supported or opposed my hypothesis.

Using photography and photojournalism to communicate ideas is not a novel concept; however, as stated by Fred Ritchin, co-director of the Photography and Human Rights program at New York University's Tisch School of the Arts, "[rather] than simply attempting to replicate previous photographic icons and strategies, ... newer [visual media] efforts are essential to revitalizing a medium that has lost much of its power to engage society on larger issues" (2013). This culminating experience project aimed to heed that advice by attempting to have communities actively participate in sustainability solutions thinking and action that may lead to behavior change, and increased overall happiness and sustainability of a particular location.

The need to address and improve sustainability communications has been recognized for many years. In 2005, the United Nations Environmental Programme (UNEP) released a document entitled *Communicating Sustainability: How to produce effective public campaigns*. This report was mainly directed towards policy makers and professional communications workers and focused on how to plan and execute your own media campaign; nevertheless, this proves the widespread problem of a lack of and insufficient communication. Accordingly, the introduction stated, "[d]espite these difficulties, our task is to reach beyond the citizens who are already committed to sustainable development, and to change the behaviour of the wider population. A new emphasis on creative communications will help to drive this change" (UNEP, 2005, p. 9). As stated in the goals of my project, I too hope to change the general public's behavior by including more people in discussions about sustainability solutions. Together with effecting these changes is the concept of happiness.



Figure 3. Happiness. A Gallo garden member in Aarhus, Denmark poses while putting together a bouquet of flowers to sell at the garden market.

According to Cloutier and Pfeiffer, happiness can be defined as "...how positively a person feels about his or her life..." (2015, p. 317). Though difficult to quantify, Cloutier along with Jambeck and Scott developed the Sustainable Neighborhoods for Happiness Index (SNHI) to create "...a comprehensive approach to indexing the relationship between sustainable community development and happiness..." It is "...a tool to assess and compare how well individual cities, towns, neighborhoods and communities embrace sustainability, which in turn may create opportunities for their residents to pursue happiness." (Cloutier, Jambeck, & Scott, 2014, p. 148). The SNHI is made up of nine subsystems of community development; the one on which my project will focus is food management. The food management subsystem includes the following indicators: number of farmers' markets per 100,000 people; number of community gardens per 100,000 residents; and easily obtained resources on presence of farmers' markets accepting Women, Infants & Children federal program vouchers and Food Stamp vouchers (Cloutier, Jambeck, & Scott, 2014). Although all nine subsystems must be present and sufficient to reach a high

happiness level, by increasing this one – even the increase in knowledge about sustainable solutions for food systems – will be a significant outcome.

This project's goal was not to have a direct impact on increasing peoples' happiness, but rather to address the currently prevalent disconnect between sustainable solutions communication and implementation, and thus sustainable community development. Per Cloutier and Pfeiffer, although these connections do exist, "...happiness generally is not sought after as a goal in community development" (2015, p. 319). The authors go on to say that pursuing happiness within communities can thus allow for residents to hold a greater role in their community, be more successful in achieving their own goals, and "eliminate embedded issues" (e.g., crime or food deserts) while also moving towards sustainable development (Cloutier & Pfeiffer, 2015, p. 325).

Included in my gallery event and website was a demonstration on how community garden members' overall happiness and well-being has increased since becoming involved in the garden. In addition to the many people with whom I spoke regarding this matter that responded positively, other cases also exist that prove this point. In the collection of articles found in *Restorative Commons: Creating Health and Well-being through Urban Landscapes*, many authors report witnessing this occurrence. For example, in *Biophilia, Health, and Well-Being*, author Judith Heerwagen stated that "[t]here is...growing evidence that both active and passive contact with gardens provides psychological, emotional, and social benefits [along with] ...improvements in emotional functioning and reductions in stress" (2009, p. 46-7).

Edie Stone, director of the New York City program GreenThumb, stated that she is "...convinced that community gardening provides unique benefits to its participants that are distinct from the...health benefits provided by traditional parks. [They] are directly linked with community gardening's ability to provide participants with the opportunities to be actively involved in decision-making about the use and development of the...space" (2009, p. 123). More than just those benefits, Stone later said that "by employing outreach staff to work with garden groups and organize workshops and events, GreenThumb also provides a human network, someone to call when you have a problem or want to connect with other gardeners" (2009, p. 127). Lastly, these types of programs provide opportunities for altruism and thus lead to other, personal, benefits: "Individuals...who are engaged in the creation and implementation of garden programs designed to help others are likely to benefit through the contribution such activities make to their sense of identity and self-importance [which promote]...health in individuals and communities. [These have] been cited as being especially beneficial to individuals by helping to reduce stress, alleviate pain, and improve mental health" (Stone, 2009, p.135).

Revisiting my method of using photojournalism to communicate sustainability solutions, I like to consider Ritchin's quote: "Since all media inevitably change us, how do we *want* to be changed?" (2013). I do not consider this project to be media in the formal sense, for example, news broadcasts; however, it does follow the idea of media in that I will use photography to "reach or influence people widely" (Media, n.d.). Farnsworth's paper entitled "Conservation photography as environmental education: focus on the pedagogues" emphasized environmental education specifically rather than communication in general, but they are not dissimilar concepts (2011). Where Farnsworth refers to "environmental educators" and "students" translates in my project to myself in the sustainability practitioner position as an educator, and those who attend my event as the students. On a wider scale, this would also be the case for others following my project template or a similar model for communicating sustainability solutions.

Similar to how I began this report, Farnsworth, too, recognized that “[c]onservation work today is not hampered by the absence of scientific evidence...but rather the ability to communicate abstract scientific notions in a way that makes sense to decision-makers and convinces the general public” (2011, p. 780). By following four conservation photojournalists, he was able to argue “that the formal education academy, writ large, stands to gain from some academic symbiosis with their non-formal colleagues working outside, yet beside them, in the realm of conservation photography” (Farnsworth, 2011, p. 785). Accomplishing this project’s broader goals was no small task, and my project likely only effected change on a small scale, but the few I “convinced” with my photographs to begin thinking about sustainability exemplify Farnsworth’s argument of melding photography with formal academics beyond the field of conservation.

Methodology

For the photographic part of this project, I used an Olympus E-520 camera with the 14-42 millimeter lens. I took photos to reflect the character of the garden and people’s experiences within them; these were chosen and consent was requested in the moment. The selected topics included overall garden landscapes, individual plots, and community garden members. The images were recorded in both .jpg and RAW format, the latter of which is preferred for editing. The photos were transferred from the camera memory chip onto my laptop hard drive and copies were made on external memory drives as backups. Once the pictures were on my computer, I began eliminating those that clearly were not relevant or were of sub-par quality. After completing that, I analyzed the photos in more detail, selecting a medium-sized group of pictures which I felt best captured what I wanted to convey through this project. This mainly included garden landscapes, garden members working on plots, educational moments during work days, and people naturally being happy while in the garden.



Figure 4. Communication through photos. A group of Arizona State University students prune weeds at the Byhaven 2200 garden.

Preliminary visual edits were made to those photographs before previewing them with a focus group made up of Sustainability and Happiness Research Lab members. I tasked the group to note which pictures spoke to them in terms of communicating happiness, well-being, or sense of community. I did this in order to obtain outsiders’ opinions on photo quality, relevance, and their reactions from viewing them. Based on the focus group’s feedback, I compiled an Excel spreadsheet listing the chosen photos, together with a ranking system based on how many people selected each photo (see [Appendix C](#)). I used this tool to refine the original set of chosen pictures to develop the final content for use in the gallery and website. As for the order in which they were placed, I printed small

versions the 30 final contenders, laid them on the floor, and continuously moved them around until I was able to present the content in an orderly flow that also communicated a story of sustainability and happiness. Having the physical copies was a tremendous help in visualizing

the story which I wanted to flow from first learning about local foods and gardens (the broad garden pictures), then to happiness and well-being (people smiling in the gardens), then to sense of community (groups of people in the gardens), and finally to getting involved in gardening (people working on plots).

A gallery showing of photographs was arranged with the Southeast Regional Library in Gilbert, Arizona for Friday, November 3, 2017. Attendees arrived around 2:00pm and had approximately 15 minutes to look at the pictures before gathering for the discussion. As an introduction, I described the project and highlighted how gardens can lead to increased happiness, well-being, and sense of community, using evidence from garden member interviews. I then led a discussion with prepared questions aimed at prompting the attendees to ask their own questions, their thoughts on what they found interesting, their opinions on the project and photographs, and their thoughts on how they can bring these ideas back to their communities and into their own lives. Two community members were particularly inquisitive and helped the group maintain a lively conversation. The discussion lasted just over one hour and concluded with my request that the attendees respond to the survey which I had available in hard copy and on a couple of computer tablets. They were then “dismissed” to continue looking at the pictures, ask questions, or leave. Event attendees consisted of approximately seven people who were present during the entire discussion – five local community members and three students from Arizona State University’s School of Sustainability (SOS). Approximately seven additional SOS students and faculty arrived later.

To develop the set of questions I intended to pose to the community garden members, I spent time thinking about what information I wanted to learn from those in Denmark and Arizona. I used articles I read to test assumptions and information regarding happiness, well-being, and sense of community. I specifically kept the interview questions consistent throughout most interviews and focused on determining whether garden participants thought their overall happiness and well-being improved since becoming involved in the garden, and their reasons for this. The survey (see [Appendix D](#)) was a set questionnaire for event attendees and website visitors to answer aimed at assessing (1) gained knowledge of sustainability solutions, and (2) how effective a tool photography is as a means of sustainability solutions communication. I obtained peer reviews of the draft set of questions to ensure their relevance, proper wording, and completeness. The survey received 23 responses, the results of which are discussed in the “Findings” section below (see all question responses in [Appendix E](#)).

Nine gardens were visited: two in Phoenix, two in Tempe, one in Copenhagen, and four in Aarhus (see [Appendix F](#) for garden information). The gardens were chosen based on their proximity to where I was staying at the time, that they were urban or community gardens, and that I was able to get in touch with a garden employee before visiting. The total number of gardens included was simply a result of time constraints. In my interactions with members of gardens in Arizona and Denmark where I took pictures, I originally emailed the community garden directors to set up a time to come when they, volunteers, members, or all three would be



Figure 5. The event. A gallery attendee describes why this is one of their favorite photos.

present. While at the locations, I discussed my project in more depth and explained my motives. In cases where I intended to photograph people, I informed them I wanted to do so, asked for their permission, and thus requested them to fill out a model release form. In cases where there was a language barrier in Denmark, I made sure these communications were clear and understood. Additionally, when conducting the interviews, I first asked if they were willing to participate and then politely asked their permission to voice-record the interview solely for me to reference later.

To advertise the event in Phoenix, I sent emails to students and faculty in the School of Sustainability and posted in their Facebook groups. I also emailed each garden I visited to inform them about the event (for those around Phoenix) and the website (for Phoenix and Denmark). The emails and posts included information regarding logistics and the project description.

Findings

The preliminary results of the interviews with Danish garden members showed a positive correlation between garden involvement and members' happiness and well-being. The specific interview questions are cited in [Appendix A](#). Regardless of age, gender, background, or any other qualifying trait, members responded that gardening has improved their happiness and well-being by at least some degree. For example, one gardener said, "This [garden] has been fantastic, it just made me a much happier man, and I didn't spend that much time in this park here before, but now I'm here up to an hour a day, sometimes more. [It is] green happiness." More focused on well-being, another gardener stated: "...the focus is more on the social and psychological benefits of eating locally and growing your own food. ...what I've noticed is that most of the people who have gardens here find that...it's meditative, that...when you're actually working in the garden it's a chance to be alone and quiet."

To complete the major objective for this project, it was necessary to assess whether photojournalism was a successful approach in communicating sustainability solutions, both in the gallery show and on the website (see [Appendix G](#) for website link). To answer this, I refer to the results of survey questions 6 and 7 in Figures 6 below (see [Appendix E](#) for complete survey responses). I think it is very telling that almost all of the 23 respondents from the gallery show and website affirmed that the photographs allowed them to learn something they would not have otherwise, such as the existence of these gardens and how they are beneficial to well-being. This demonstrates that, in this case, using photojournalism was a successful method of communicating sustainability ideas.

Other important findings come from the ability to educate people on these topics about which they did not previously know, and the reported increase in people's interest in becoming involved in their own community and urban gardens. Here, 65.2% of survey respondents said they learned something from the event or website. For example, one respondent said they learned that "gardening is good for well-being in a number of different ways;" another noted that they became aware of how "gardening is a great stress reliever and helps with protecting our youths' futures." A final example is from a respondent who stated: "I noticed that there were a wide range of people of different ethnicities and ages who all claim to benefit from community gardens, which makes an even greater case for community gardens being optimal spaces for social cohesion." These responses reflect the contents of the discussion held during the event. The gallery show attendees were excited to learn about local community gardening opportunities, to see the comparison of gardens in Denmark and the Phoenix area, and simply to have the opportunity to share their knowledge with one another.

Additional important survey results, as seen in survey questions 10 and 11 in Figures 6 below, include that 82.6% of respondents said they gained an interest in participating in gardens, with 65.2% saying they were likely or very likely to do so. These results demonstrate that it is indeed possible to provoke sustainability interest and action through visual methods and open discussions.

6. Did this event/website help you to understand concepts (such as sustainability, sustainable solutions, and food systems) of which you did not previously have an understanding?

23 responses

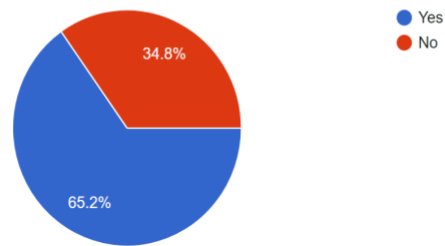


Figure 6a. Survey response results for question six.

7. Do you believe that presenting these ideas through photographs allowed you to learn something you would not have otherwise?

23 responses

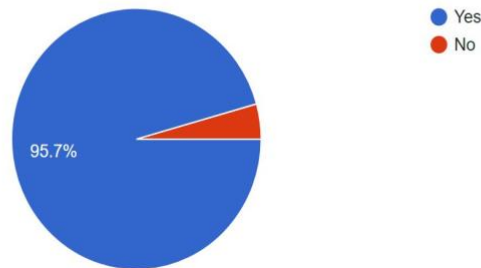


Figure 6b. Survey response results for question seven.

10. After attending this event/viewing the website, do you have an interest in becoming involved in community/urban gardens?

23 responses

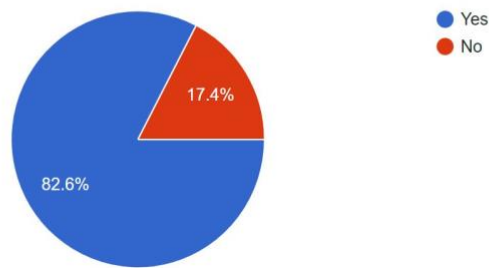


Figure 6c. Survey response results for question ten.

11. After attending this event/viewing the website, how likely are you to become involved in community/urban gardens?

23 responses

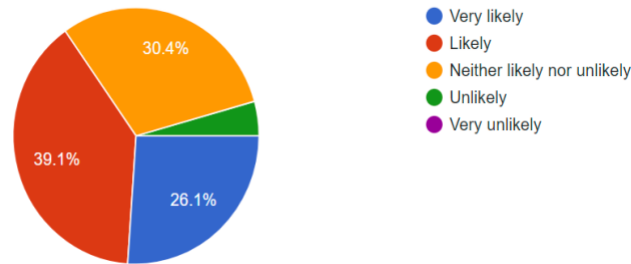


Figure 6d. Survey response results for question eleven.

It is also important to acknowledge that communicating through photographs also has limitations in that it is very subjective. Images and their corresponding information can mean different things to different people, and it is difficult to convey those varying emotions through survey questions and responses. Similarly, like journal articles may be unsuccessful in communicating ideas to some people, viewing photographs could pose the same failures in reaching an audience. Of course, we have yet to find a perfect communication method that successfully conveys information, no matter the person.

Conclusions

Referring to my two initial project objective statements, the results support my hypothesis that photographs can tell a holistic sustainability story and that viewing such photographs can incite change in people. More specifically, the photographs allowed people to become educated on a topic – that participation in community and urban gardens can increase happiness, well-being and sense of community – which they may not otherwise have been. This is substantiated through the findings discussed above.

In the short term, it is possible that this project changed people's interest in and thoughts about sustainable solutions and sustainability in general. Through participating in the event or viewing the website, it is likely that people were able to draw connections and understand how the sustainability concepts related to their own lives. Longer term impacts could include that gallery attendees gained an increased awareness about sustainability, increased knowledge about sustainable solutions, a global perspective about these topics, and ultimately make behavioral changes that lead to increasing overall sustainability in the Phoenix metropolitan area. Though this is a slow and unpredictable process, I would consider increasing the sustainability commitment of even one person's lifestyle to be a success.

These results are fair, though still only represent a small sample of the population. They give the full answer for this specific area (gardening related to happiness, well-being, and community and how those ideas were communicated through photography). Further investigations would include studying different locations and/or subject matters to see if similar results could be created. For example, one could try to visually communicate the importance of water management in the Phoenix valley through photographs of the canals and decreasing Colorado river level.

Future Directions

For the specifics of my project, a good first level extension would be to host more events like this one in order to reach broader audiences. If another student was to follow up on the survey over time (longitudinal study), the results could be more formalized and reliable to better prove the success of using photography as a means of communication. On a broader scale, there is also room to expand this project by traveling to different cities and completing a similar project in regard to content, or conversely (and from a latitudinal perspective), to follow my project format but for an entirely different topic of sustainability, such as in the areas of water, energy, waste, or transportation. In any of these cases, my culminating experience would provide a practical baseline for future students' projects.



Figure 6. Looking to the future. An aerial view of raised bed plots in the O-Haven urban garden overlooking the ocean on Denmark's eastern coast.

References

- Charter, M., & Tischner, U. (2001). *Sustainable Solutions: Developing Products and Services for the Future*. Sheffield, UK: Greenleaf Publishing Limited.
- Cloutier S, Jambeck J, Scott N 2014. The Sustainable Neighborhoods for Happiness Index (SNHI): a metric for assessing a community's sustainability and potential influence on happiness. *Ecological Indicators* 40: 147–152.
- Cloutier, S., & Pfeiffer, D. (2015). Sustainability Through Happiness: A Framework for Sustainable Development. *Sustainable Development*, 23(5), 317-327.
doi:10.1002/sd.1593
- Farnsworth, B. E. (2011). Conservation photography as environmental education: focus on the pedagogues. *Environmental Education Research*, 17(6), 769-787.
doi:10.1080/13504622.2011.618627
- Heerwagen, J. (2009). Biophilia, Health, and Well-Being. In *Restorative commons: creating health and well-being through urban landscapes* (pp. 39-57). Newtown Square, PA: U.S. Department of Agriculture, Forest Service.
- Media. (n.d.). *Dictionary.com Unabridged*. Retrieved April 06, 2017 from Dictionary.com website <http://www.dictionary.com/browse/media>
- Ritchin, F. (2013, May 28). What a Photograph Can Accomplish: Bending the Frame by Fred Ritchin. Retrieved Feb 1, 2017, from <http://time.com/3799860/what-a-photograph-can-accomplish-bending-the-frame-by-fred-ritchin/>
- Stone, E. (2009). The Benefits of Community-Managed Open Space: Community Gardening in New York City. In *Restorative commons: creating health and well-being through urban landscapes* (pp. 123-137). Newtown Square, PA: U.S. Department of Agriculture, Forest Service.
- United Nations Environmental Programme. (2005). *Communicating Sustainability: How to produce effective public campaigns*. Retrieved from <http://www.unep.fr/shared/publications/pdf/DTIx0679xPA-CommunicatingEN.pdf>

Appendices and Acknowledgements

Appendix A: Garden Member Interview Questions

- How did you come to learn about the garden?
- Why did you want to get involved?
- How long have you been involved?
- Did you have knowledge about gardening, etc. before becoming involved?
- What have you learned since becoming a part of this garden?
- What do you think are the best ways to involve community members who do not know about these programs?
- What do you think is the best way to communicate related ideas?
- Do you feel that your happiness has improved since being involved with the garden?
 - In what ways?
- Do you feel that your well-being has improved since being involved with the garden?
 - In what ways?
- Has your sense of community increased/do you feel more connected to your community with your involvement in the garden?

Appendix B: Transcripts of Responses Obtained Through Interviews with Denmark Community Garden Members

O-Haven – July 1, 2017

Manager/director

Knowledge of local food systems before involvement?

No. Not really. I mean, you know what you know, just basic knowledge. But now I know a lot of the people producing as well cause we started... This interest in food or producing or having green in your local areas.

Best way to communicate about the gardens?

I think it would be storytelling. So if you have the stories, but also can put some data and some facts about it so that you don't just say "it's good to eat local" but say "it's good to eat local because or buy local because of..." but like in a positive, don't go out and say, well, we're going to build a wall [haha] but go out and say, talking about all the benefits of it, not the downside. But you need to communicate it and tell the story. *In what way?* It needs to be combined with examples and some written words or I mean it also could be narrated, but it needs to be something so that people can understand, remember what was there, what's been said.

Why did you want to be involved with the garden?

I was asked, it was a job. They offered me a job. *Glad you did it?* Yea, cause this uh I mean there's a lot of uh a lot of things came out of it. Actually I signed up for the job for a year when we started and now it's going on and I actually signed up for a new job within so this works so well, so we want to sign you up to a new job sort of we have a future where you work with all these temporary projects but we actually have like look at the next steps.

Have your own plot?

Yes. *What do you grow?* Not much. ... Being a project manager and having this ask the sort of uh your work place makes it very hard to just go down and do stuff and relax doing it. So uh not a lot. ...

Happiness improved?

Uh yes, the happiness yes, uh stress level increased, yes as well. But yea the happiness. I mean working on a project like this and not just even, I mean people do this as volunteers, the, of course I get some money for doing the job but there's a huge value in the people I'm meeting, people I'm seeing, the value it creates for the people. Uhm, and also having I mean those came by and say "this is a fantastic project" I mean it's not me, like 300 persons but I'm like the spokesperson so... and also meeting people with the gardens and they appreciate it "we're so glad we have this guy, this opportunity, it's so nice" And a lot of people talk about, okay, "what's gonna happen next year, we really hope we can have something like this continue in this area", okay, so it actually has a huge value for other people and that's also part of like the value or the benefit of this job, or a job like this.

Wellbeing?

Uhm yeah, uh, in some... I mean it's also a stressful job to have cause there's a lot of.. as many people as are glad and happy about this project, as many people are depending on me to do my job. So in that sense it's kind of, it's also stressful cause I mean there's only me. If you had a different setup as many other gardens have, have like a, there's a group of people taking, like being like the organ to take care of it all and decide what happens so they can use each other and we don't really have that. But in all I think it's uh it's increased in many levels. And it's nice to stay down here. It is relaxing. I don't know where I would go on a day like this in Aarhus if I didn't have this place.

Sense of community increased?

[quickly] Yeah, a lot. Community, but also uhm the idea of being part of a city and also seeing the city as some place that you can be a part of but where you can also make changes. If you just work for it and have some good track record and can make the change yourself and can make the proposal (?) and actually fulfill it as well. So in that sense I feel a lot more connected to the city uh but also the community out here. I know a lot of people out here now.

Gardener

Happiness?

Uhhh yeah, I think you could say that. I have it together with my brother so now we have a reason to see each other much more so that makes me happy and you have a reason to go out. Sometimes when you live in apartments just.. sometimes I needed a reason to go out and do something, just not take a walk in the park because I have done that plenty of times, so it's nice to have something to do outside.

Wellbeing?

Mm, I don't know, maybe. I have five kilometers down here so.. maybe.

Eating healthier?

Uhhh, I don't think I eat healthier, no.

More connected to community?

Uhhh, it's the first year here now, but.. no I don't talk much because it's.. there are some days where they have arranged something down here where we can come all together but otherwise it's just people just stop by whenever they have time, so. *Would you want it more so?* Uhm... I don't think so because I like that you can come here whenever you want, it's not that you have to come every Sunday or something like that.

Communicate?

Hmm.. that's difficult. I mean there is select (?) communication on the social media, I think that is pretty much the best way. I think that's where people try to research and find new things.

Greenshare – July 6, 2017

Lenore

What are the social and psych benefits to gardening?

Well, at least in terms of our garden, I mean I think.. I think growing food in the same space creates community, it creates connections between people. And it creates connections with people you would never speak to otherwise. Especially in our garden it's created a lot of connections b/w groups of people who normally have little contact w/ each other in this neighborhood. Like the people at the university and the people who live here normally live in sort of parallel worlds, but here is a place where we can actually work on something together. And I think psychologically, I mean, what I've noticed is that most of the people who have gardens here find that it's really, it's meditative, that the social aspect is important on some sort of general level, but when you're actually working in the garden it's actually a chance to be alone and the chance to be quiet. And here it's this great combination of being alone and doing something quiet in a space where there's a lot going on and pretty much always [stutters], often when we're here, people will come and ask us what we're doing which is kind of nice. So in that way it just sort of creates life in a place where nothing much was going on before.

How to communicate

I think... I think a lot of... It kind of depends on... older people, people over 50, generally have more knowledge of it and more experience of it, or more interest in it. Either they come from families that have had their own gardens or remember when that was more common or have their own gardens themselves, but uhm younger people, esp. College students here have very little knowledge of that. And can't really identify any plants, so they're curious on a really really basic level, like what is that and what are you doing? And I think one of the things this garden does is make it, is to show people that it's not that difficult to grow stuff. Cause pretty much, a lot of the people who start gardening here have no experience and pretty much everyone has success with something. And I think that is important both for the people who are gardening but it's also important for people who use the garden to see that that's, that pretty much anyone can grow radishes or whatever.

I actually [stutters] think showing people is much more powerful because there's an awful lot of telling in the world. And so our little message kind of tends to drown, you know, cause there's a lot of bigger and more interesting messages presented in a more professional way. And because I think it's only when you actually experience what gardening like this is like that you understand it or can value it. And talking about it does not get you any closer to that understanding. I think I've also learned from.. I mean this is our second season, and we've got a Facebook group and I think for a long time I thought that I could teach people stuff or get them to see stuff by writing long posts about it, you know, with links to information and then I realized that most people don't. Or they don't learn that way. Like when you're working with plants, most people learn much better by watching someone do something who knows what they're doing, right? Or a lot of times the right questions only arise when you're actually here and you can point to something and say, "what's happening?" So I actually think we more and more just sort of... I think it's incredibly important to get people in gardens and talk to them there and in a sort of unstructured way. I also think that because there's so much information involved in

gardening that it's really, especially in growing vegetables, it's really easy to overwhelm people. Cause not only do you have the really basic stuff like what are the vegetables and when do you plant them, but there's all this stuff about growing organically which is something a lot of people don't have any intuitive understanding of at all, right? I mean they don't know anything about soil, like what is soil? Why do you have to put fertilizer on it? I mean there's so much basic stuff that most people tend to get kind of over... sort of just tune out at some point, you know? But if you just sort of start doing it, then you learn those things in connection with a process and it's much easier.

Knowledge of local food system before?

Uhm.. yeah in the sense that... that kind of setup where you can get boxes of local, organic produce delivered [...] we've had a subscription for that for many years and I have another garden at my house so I've been gardening there for a long time. But I think the local food system is something that at least the city here is actively trying to promote and create basically from the bottom up by encouraging people to start gardens like this. So it's in some sense it's a new thing here.

Learned?

I think, ... you know my answer to that has to do with the fact that I'm kind of the chairperson of the garden and a lot of like making sure the garden happened has been my responsibility to a large degree so a lot of what I've learned has been less about food and gardening and food systems than it has been about organizing things and making things happen and getting people involved [...] I think the most important thing I've learned about you know community gardening is patience. It actually takes most people, I mean, you know, gardening is all about patience generally, right, and teaching people to garden together is even more about patience because everyone has different stuff that they need to learn and we also need to learn how to work together to keep the garden running, you know, so there's a lot of learning how to divide up the work that needs to be done or how best to help individual gardeners with their plots has been a major part of it for me. And I think at least as, you know, we have a little steering committee and I think we've been really idealistic about wanting to do a lot of sort of shared plots, and I think I've learned that that's something that can take a long time, that most people are really focus on their own plot and have sort of an individual development as gardeners to go through and don't have time or energy to focus on growing stuff together. [...]

Happiness increased?

I definitely think so. It's really *really* fun to have such a tiny plot to grow stuff in because it doesn't take that much time and you can't really screw it up. But for me this is in addition to like a big garden with all kinds of other stuff so this is like my play garden and I really enjoy it, I come here on my lunch break, basically. I work at the university. So that has been a lot of fun but it's also been really great to be a part of a community of people that's brought together by an interest in growing plants. Cause I don't feel that I've ever really had that before, and that's just a lot of fun on a really sort of naive level. I also do think that the communal aspect of it adds a lot to the experience, like I think it's actually fun to garden here with all this stuff going on around, like seeing other people, you know, interacting with people who walk through the garden; it adds something to the experience that you could never get in a private garden.

Wellbeing?

Well I think the more social connections you have, right, and the more connected you feel to your community and the more fulfilling the activities you do in your network are, the happier you'll be. So I definitely feel that it's a source of happiness. I also really feel that having an excuse to sort of be outside more during my working day is good. Because I can just sort of come over and briefly look at my plot or look at the squash or whatever or water a little bit and then go back and that makes a *huge* difference to me. I mean sometimes you know it's not always easy to find time to do the administrative stuff and I can, you know, it's also a source of stress for me, sometimes, but I definitely feel that the benefits outweigh the disadvantages to it.

Martin

Increased sense of community?

I don't really know. I think some of the other guys here are a lot more into the whole community thing and love doing all kinds of projects and I guess we have helped out sometimes but it's like I guess we're here mostly just because of uh... not so much the community but more to like be able to like do our own thing and yea. But I guess most of the other guys... or at least some of them are very uh plan all different kinds of ya of uh meetings and so on but ya. I guess it depends on ya what you're looking for. But of course when there are people here we talk to them. I guess some uh seek the community more than we do. We were in fact, before we were uh applied for the plot we were looking for uh, in Denmark there's this uhm... it's called uh it's also a garden but you have your own little house and your own... what's it called... it's like you have your own uh space and just a little like a little cabin where you can sit and do whatever you like. So actually we were looking for something like that in the beginning but that's quite expensive and so on. They're very sought after, so... this is easier. ... We have the water we can just go get... and this season most of the seeds are from like a shared seed bank which was uh like purchased from the... I think we last year they applied for some funds and uh I think that has been paying for most of it like everything that has been built and most of the seeds and so on. It's not that expensive for us.

Increased happiness?

I guess that's hard to say but yea of course. It's not something that you like notice on every day basis but yea of course. It's nice to... I mean, here after we have been uh... planted seeds and then most of the time if we are taking a walk we will come by and have a look and see oh, these are getting bigger and so yea. I guess I would say yes. I mean if we didn't do this we would probably do something else.

Wellbeing?

Yea, I mean. I guess that's pretty neutral because I suppose that's pretty neutral because we could go to the grocery store and buy organic foods and...

It's fun and it's nice to see what you can produce...

Try to communicate what you do to friends?

Actually, some of our friends asks a lot about it.

Best way to communicate?

Just telling our friends about it, and maybe they will buy a plot. --A lot of times we just we've told people that we have this little garden and they "oh a garden, how big is it" it's, I mean what is it, 5 by 5 feet or something and then laugh, and half a year later they ask "how is the garden going". But I don't think that we have made anyone like get a plot here or anywhere, but some people ask once in a while.

Girl

How long involved?

I just started this year.

Why get involved?

I come from the countryside so I guess I missed having a garden and then I saw this thing, I think I saw it, maybe I saw it on Facebook, I don't know, and then I just wrote... because people are asking me "how did you get this place" I just wrote and asked if I could join, and Lenore wrote to me that they just had one plot left, so.

Knowledge about local food systems before?

A little bit, yea. From home.

Learned?

Some about when to seed and when to harvest. I don't think I paid much attention to that when I was living with my parents because they were just telling me "now we have to go seed, now we have to go harvest" so yea.

Best ways to involve community without knowledge?

Make a bigger sign. Because I passed here a lot of times before getting involved and I never thought it was anything that I could become a part of even though I live right down here, so I guess just letting people know that it's a thing. Uh maybe, I think I saw it on fb somewhere, but maybe to get the university to make some posts or something.

Improved happiness?

No, not really. But I definitely enjoy coming here and taking care of my plot and see how everything is going. Yeah it makes me happy to see that something came up.

Wellbeing?

Yea, yea you could say that I guess. It's a way to... you have like a responsibility to come here and to tend to your plot so.

Sense of community?

Not much, I think. It's not that often that I see other gardeners up here, so. Mostly I see Lenore and I think I saw [] a few times too. *Would you want that?* I think it's nice when we have the... some days we come up here, most of the gardeners, and tend to the common plots and I think it's nice when we do that because then we can get to talk to people and maybe you get to see who's next to you. Actually I don't know who has the plot next to me, so that would be nice.

Other Girl

When involved?

About around February last year I think. Year and a half ago, something like that.

Why?

Well I had actually wanted to, I live in a tiny flat just right around the corner and I always wanted to have a garden on my own but that's not really possible yet where I am in my life and I knew that other places around the city, they started to make these community gardens but they were first of all kind of far away from where I lived and also had really long waiting lists. Uhm and then I, I think a friend of mine saw a post on the University's Facebook page or something like that that they had this starting up thing with this garden and I just stopped by and there was still plots available so I... why not.

Learned?

Well I've learned a little bit about like certain crops and how they... what grows well here, and what not. I learned this year that cauliflower is not good because it gets eaten so like technical things like that and I think I've learned to appreciate more growing my own food because it tastes better and I can pick the amount that I need. So for example, if I buy lettuce from the supermarket a lot of it ends up going to waste because I live on my own and I can't eat all of it before it gets bad and here I can just, it's more economic that way, that I can take what I need for that day and then there's less waste. ... So I think a bit of like appreciation for...not wasting food

Best ways to involve surrounding communicate?

I don't know, I think I experienced that a lot of people who come by when I've been working here have been interested and have come to ask questions "what is this, and why do you do this and who's involved" so I get the idea that people who pass by are interested and just want to talk about it which is uhm I think in a Danish context like pretty good because Danish people don't really interact with strangers if they can avoid it, maybe that's a prejudice but that's sort of... so people actually coming up I think that's a good sign. ...But we haven't done a lot to otherwise involve the community like that. It's more of like you have your own plot and then you grow stuff for yourself. It's not sort of uh... it's not selling.

Best way to learn?

In my experience with gardening, learning by doing is probably the most efficient way because it's... I don't know with things like this I can read a book about how to grow tomatoes, but if I don't actually do it then it doesn't stick. But it's also like for example, ... [Lenore's] been really helpful because I didn't really know anything, I still don't know a lot about gardening, I just try something out and see what works and what doesn't work, and she... it's nice to have some people sort of in the group or in the community that actually know something and are willing to share what they know. So for example, she sometimes announces "this Sunday a bunch of us will be in the garden so come along if you want to have tips on [da da da]" and leaves little books in our small sheds for us to look in so there's some information being shared in the community like that and I think that's... it's nice to have somebody in the group who actually... or a few people in the group who actually know what they're doing, that's a good way of getting a better

experience and probably continuing gardening instead of just trying something out in a random way and it didn't work out so I'll give up or...

Sense of community?

Not a lot. I think uhm with this communicate garden it's I guess it's what you make it. I think some people know each other well in the group and some people just stop by once in a while eh so it's uhm the idea the way I get it is you can be as involved as you want to so uhm you could just like mind your own plot and not really interact with the others if you want to do but there's definitely the possibility to get more acquainted with people who... I think most people who have these small plots live around here like I do. So for ex we are a small team who are responsible for filling up the water tanks and so I get to know those people more, and so yea. But again I think with this garden it's like you have your own plot, it's not like... well there are a few berries and herbs down there that are for everyone who's part of the garden but for me that's not really the biggest part of making the community feeling, it's more of growing your own food and seeing life coming up, it's nice.

Happiness?

To some extent I'd say yes cause the way I work, like my job and what I do otherwise is sort of very like uhm... but I like that I can actually like I can put a seed in the ground and it comes up and you can see life growing and I really enjoy walking by this every day when I go home from work, especially last year I was writing my Master's thesis and was having a really hard time but I think it improved my everyday happiness to walk by this place and all this green and life and flowers and food. I guess that makes me more happy, I'd say so.

Wellbeing?

I think the two go hand in hand. I don't know for sure, but I have the idea that it's a healthy way of living if you eat home grown, organic food. I don't know, but in this place there are a lot of cars coming by so it's probably not the ideal health situation like that, but I'd say so, yeah.

Gallo – July 4, 2017

Old woman

The garden is medicine

Best way to involve community?

It's a very good thing because many choose the cheapest way and many people who can't afford to you know get organic because they don't have money enough or because they don't think of organic. That's a goal to reach campaigns but you only have to try to learn their children. I know my daughter is working on this, she's a farmer too haha, she has the education of a farmer and she's working on a, in the office, ready for [an assembly?] to have courses for children in organic food this week I think it's going on all over the country. And if we can learn the children something, they can learn the parents.

Why important to cultivate?

Cause you get better food. Not many pesticides, and because you get more vitamins and all that... Better food you get at the local, if you use Danish than outside the country because you don't do so much pesticides as do the other places, and that's important I think for our health.

Improved your happiness? In what way?

Yes, it has. The work itself. I love flowers and I love gardening and I have problems with my knees, I can't lay on my knees anymore. Uhm and I like the people, they are a good group. I think it's important to get out and be with other people. ...

Increased sense of community?

Yeah, it's a good group. I have been here 10 years and we are a good group, and there come new every time. Sometimes they stay and sometimes they don't stay too long, but I meet a lot of people and also in the shop.

Overall wellbeing?

Yeah, if I lived in a flat that didn't have any gardening or other things to do I would be very nervous.

Havefællesskabet – July 10, 2017

Lena

Well we have, I don't remember exactly how many circles but the, it's called eh 34 ... gardens in all, so it's quite big and nice. And we approximately have the same size, I think it's about 12, what's it called, square meters or something so it's about uh... one circle is cut in half and ... then we have the bigger circles which is cut in four. And it's been like this for four years now, I think. I was here in the beginning so yeah it's been like this but in the beginning this was as well a garden ... We had to have one of the gardens for the community here so people could come and take stuff, but it didn't work, people didn't come. ... We got these signs (*indicates signs in gardens with names on them*) just a few months ago, and it's so great cause we actually... the community should be better. We don't know each other. It's like you don't... you know those closest to you but you can't remember their names and if you see one here and start talking and like "okay, where's *your* garden?" But now you have the signs so you say "ahh okay, Atley, your garden is over there" and that's a way to know each other better I think. ... We have some, what's it called, common days where we meet and work but that's like once every other month or something like that so it's not that often.

-Part of the garden since 2013

Why get involved?

Actually it was a good friend of mine, she says, by then she was studying to be a biologist, and one of those who started the garden was also in her school and they were friends so she got in that way. Uh, and I think she didn't wanna do it herself so she asked if I wanna come. And then the first year she moved and then I got the garden and was just like, "okay!" Cause we started with the potatoes and the squash uhm and that was fun but not that challenging, so and being two friends uh having a garden you have to

compromise each time and I just want to do it on the (?) so I just continued when she moved.

Knowledge about local food before?

Not at all, no no not really. Uh all my knowledge is from here and... and has really become a hobby and an interest and I think it's so cool and I dreaming of a *huge* garden where I have all, everything and do all the work myself, but that would be hard, I think. Uhm, but no, my family never uh was interested in it. My father grew potatoes but that's it and I never yea thought about it before but now doing my own planting, watching it grow, I'm much more considerate about it. And after that I joined a, what's it called, it's organic community also here in Aarhus where we can buy a bag of groceries from a local farmer each week, then we just, we pay in advance, we don't know what we get but like that it's local and it's organic and that supplies pretty much what I can harvest from here.

Learned?

mmm. I learned a lot about vegetables like how they look and what they're like when they grow and how some vegetables are in seasons and when they're not in seasons and uhm.. I think also like okay, maybe you don't have *only* vegetables, you have flowers as well for the bees and for the looks and everything like more balanced about it. But I've also learned a lot more people in the garden, uhm, yea I think something like that. I really think it's also like it's therapy coming here and doing garden work. Maybe not even doing that much but leaving something and the... yea it's lovely.

Involve community members?

Yeah, uhhh, we haven't had that problem yet cause there's uh I'm the one responsible for the lists of people, when they want to have a garden they write to me and I put it on the waiting list, I think we have 15 people on the waiting lists maybe all year round, something like that. Uhm, so we don't have a problem with getting people interested but I think maybe if we did more uh community days or common days. We have talked about this, we have to do it because the contract with the city, but we're not very good at it [haha] we need the manpower. But if we have something where we just like put it online and show, say, "hey, come and see our garden, maybe do something" could, could probably help. But, I really also think... I experience a lot when I'm here and working there's all kinds of people talking to me about the garden and "what's that" and "what are you growing," "how do I get one" and you know, children ehm, I'm not saying immigrants cause I'm not sure they are, but people who don't look ethnically Danish eh and elderly, all sorts, so I think just that you can see it and that it's so close. I know there's a lot of other gardens in Aarhus eh but I also know they are like, you know, smaller... I think it really helps that we are in the center of a big living area. That I think helps people to get by and see what it is. But yeah, maybe we also should have more visible signs like you can be involved with this. I know we have two signs somewhere, I don't know where they are or what they're standing on then. But to be more communicative to people, yeah. ...

-Their problem w/ community plot: wasn't properly designed; people didn't know about it; people were harvesting in other gardens, not just the community one; not harvesting when food is ready; people who are part of the garden didn't want to take care of it.

There is a berry plot people can take from, but there's no sign so people don't know they can ...

But I can see the point with the other (*having the garden be fully communal rather than individual's plots*) cause the community would grow if you had a... be better if it was helping each other with everything.

Sense of community increased?

Uh, I think I see a lot of different people that I wouldn't see normally ehm I'm not living nearby. Me and one other is living I think 1.5, 2 kilometers or something, most people live just around here. Uhm, but yeah I think I'm meeting people I wouldn't normally meet, like also the elderly and people not from my University and like that. So definitely yeah meeting other peoples, yeah. Uhm I know there's a lot of couples up here as well.

Happiness?

Mm yeah [haha]. I just talked with my friend about that question... Yeah, I think I'm more happy uhm but so many reasons because it learns... I learned about plants by having a garden to learn about plants, and now I have a balcony at home plants all over, window sills plants all over, so definitely brought plants into my life. Uhm but also like you can plant and you can see it grow and you can harvest and you can eat it, it's just like a success in that small potato. Uhm I've been studying for now six years and finally finished, but you know when you're studying it's reading reading reading and then writing an exam and then reading reading... it's not, you never feel like stopping and never feel like a success, but here I can plant a potato and I can grow and harvest the potato it's just like success within two months, and that's great. And also I have a spot of nature which where I belong somehow. There's a *lot* of nature here in Aarhus and I love it but that's 12 square meters is where I belong. It's always somewhere I can go by and see how they're doing and (*sing-songy*) -there's bees in my flowers- and yeah. Actually it's quite funny cause I have a strawberry, uh strawberries, and last year I didn't have any of it cause uh the rabbits came and took it and the birds came and took it and it was okay cause it was nature, it was fun. ...

Feeling being a part of something... yeah, that's pretty much good, pretty good.

Wellbeing?

Ohhh uh, yeah? I wouldn't miss it. I definitely think if I hadn't had my garden I would be another person. Uh, I don't think I would ever loved plants as much as I do today. Uhm, I know so much about vegetables, and reading about vegetables and planning all winter what I have to grow over summer and uh so yeah I think so.

Icelandic man

Part of garden for 1 year.

Why involved?

Pretty much just you know, became curious of the circles here, cause we live just next door. And uh thought it could be fun to have a family activity where you can introduce (?) how to grow veggies (?) and herbs for the boys. Get some outdoor activities to (?) also, you know, it looked like fun. Pretty much that's the reason for why we applied for it, cause we really wanted to, you know, grow something ourselves and introduce the

boys to, you know, that food does not come solely from supermarkets, it has to come from somewhere else, so.

Learned?

Haha patience hah, but also because it's a system where plants interact with each other and the whole ecosystem. We have roughly about 30 plants (?), we've created our own little ecosystem where flowers interact with plants, other plants, and some plants are not very good friends to each other so as companions they are not suitable so you need to think okay, this is located here while the other, the enemy, the nemesis, for nutrition has to be somewhere else. And also just things that, you know, how fragile this is but still how incredibly uh survival, that they can actually thrive through the different weathers and climate changes and... cause we've had all sorts of weather here in the last three months or so from raging storms to almost minus degrees in the night to uh semi drought to heavy rain, but somehow the fragile plants, they somehow seems to be able to deal with it.

Communicate?

I think to make it (able?) to them, something like this is fantastic for people that... if people can see how it is grown and how it works and that actually you could give them more knowledge about how you produce food. Uhm it's one thing to have fancy packages around ecological food and organic food that you buy from the supermarket, but it doesn't really tell you the whole story, does it? If people actually see how... well, it looks easy but there's a lot of work in it as well, but I think if people actually see *how* the whole process of it is done and how you can reuse and recycle and actually almost become self-sustainable when it comes to... well, this is never going to sustain us, but we have created like a cycle here where we take all the leftover food, we put it into the garden here, and we have that to uh give nutrients back to the ground uh all this energy circle, the nutrition cycle, the companion between plants and insects and all that. I think that actually people can see how it works and how it's done, it could make them more interested in knowing more about how and where food comes from.

Do you try to have a focus on sustainability in your garden?

As best as I can, yes. The idea is that you have to grow organically, it's not necessarily sustainable, but sustainability is a key issue, at least for us. We are trying to do it as sustainable as we can, but it's easier said than done, especially when you only have a small patch like this one here. But sustainable is a key issue here as well with the organic.

Happiness?

Definitely, definitely. Uhm, this has been a fantastic opportunity for me to go outside, I spend a lot of time inside, and uhm, and this coexists quite well with the idea of having green areas in cities, to get people to get out to increase their happiness. Just to get out in the sun for a few hours a week, it's amazing how much it does to you, for your psyche. This has been fantastic, it just, made me a much happier man, and I, I didn't spend that much time in this park here before, but now I'm here up to an hour a day, sometimes more. Yesterday I spent six hours in the garden just because of this one here. Absolutely. Green happiness.

Wellbeing?

Well, yea, obviously uhm. Where do you want to start? I mean, this is... at least I'm not sitting in the couch watching television, you know, getting bored or what have you. Uhm we try also, we also trying to eat from here so that's also healthier food, so uh I think it's in many ways igniting a healthier lifestyle, healthier wellbeing and more happy, and more happy family. Wellbeing... for me is not only if you are fit and healthy, it's also how you feel up here (*points to head*) and how you (*talks with kids*). This is one of the things that wellbeing is. I'm incredibly glad that my boys, who are three and six, are showing this... interest. They're learning a lot about nature and uh (*talks with kids*) and wellbeing it is being raised every day here. ... Definitely, wellbeing has increased dramatically, with the happiness. I think it goes hand in hand.

... Yeah, but like I said, this, even a small patch like the one we have has been incredibly successful of generating a family hobby where we all can contribute in our own way, and that's uh, I would wish that all people could have this experience, cause it's just a matter of willingness and support... from the municipality. They need also to hand out land for... it is fantastic.

Appendix C: Sustainability and Happiness Lab Photo Choices

Escalante	Tiger	Clark Park	Byhaven	Ohaven	Gallo	Hospital	Greenshare	Visual	# of "likes"
90525	81013	41089	81531	22106	52298	62424	72502		
90526	81019	41090	81532	22107	52299	62429	72504		
90527	81020	41092	81536	22110	52300	62431	72508	10	1
90530	81022	41099	81537	22113	52304	62432	72514	10	2
90537	81025	41101	81538	22117	52308	62433	72517	10	3
90538	81027	41102	81540	22118	52314	62434	72530	10	4
90541	81028	41104	81543	22120	52315	62437	72531	10	5
90542	81031	41107	81547	22125	52316	62439	72540	10	6
90543	81033	41114	81552	22126	52318	62440	72544	10	
90571	81034	41115	81560	22127	52324	62443	72545		
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90597	81055	41123	81572	22142	52334	62450	72558		
90600	81056	41125	81577	22143	52342	62452	72564		
90601	81057	41126	81578	22144	52343	62455			
90602	81064	41127	81580	22146	52345	62459			
	81065	41128	81585	22148	52347	62460			
	81066	41132	81591	22150	52350	62462			
	81072	41139	81592	22152	52351	62463			
		41143	81628	22153	52356	62467			
		41144	81630	22155					
		41146	81631	22157					
		41151	81638	22159					
		41155		22162					
			81604	22163					
			81605	22164					
			81609	22166					
			81610						
			81612						
			81618						
			81620						
			81641						

Appendix D: Survey Questions

1. How old are you?
 - a. 18-24 years old
 - b. 25-34 years old
 - c. 35-59 years old
 - d. 60-69 years old
 - e. 70 years or older

2. Do/did you consider yourself to be an academic?
 - a. Yes
 - b. No

3. Did you find this event to be informative?
 - a. Yes
 - b. No

4. Before attending this event, did you have a knowledge about sustainability?
 - a. Yes
 - b. No

5. How do you best learn about new subjects?
 - a. Reading books/articles
 - b. Listening to talks/lectures
 - c. Watching movies/documentaries; looking at photographs
 - d. Demonstrations
 - e. Other: _____

6. Did this event help you to understand concepts (such as sustainability, sustainable solutions, and food systems) of which you did not previously have an understanding?
 - a. Yes
 - b. No

7. Do you believe that presenting these ideas through photographs allowed you to learn something you would not have otherwise?
 - a. Yes
 - b. No

8. Before attending this event, did you know that there were community/urban gardens in the Phoenix metropolitan area?
 - a. Yes
 - b. No

9. Before attending this event, were you involved in any community/urban gardens?
 - a. Yes
 - b. No

a. If so, which ones?

1. The Farm at Agritopia
2. Harvest of Hope Community Garden
3. Mesa Urban Garden
4. Escalante Community Garden
5. Clark Park Community Garden
6. Tiger Mountain Foundation
7. South Mountain Farms
8. Other: _____

b. Do you feel that being involved in community gardening has increased your happiness?

1. Yes, a lot
2. Yes, but only a little
3. I do not know
4. Not really
5. Not at all

c. Do you feel that being involved in community gardening has increased your overall well-being?

1. Yes, a lot
2. Yes, but only a little
3. I do not know
4. Not really
5. Not at all

10. After attending this event, do you have an interest in becoming involved in community/urban gardens?

- a. Yes
- b. No

11. After attending this event, how likely are you to become involved in community/urban gardens?

- a. Very likely
- b. Likely
- c. Neither likely nor unlikely
- d. Unlikely
- e. Very unlikely

12. What are your reasons for wanting or not wanting to become involved in community/urban gardens?

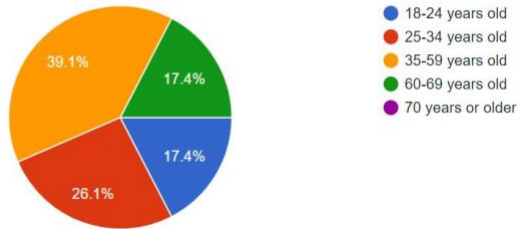
13. Briefly, what did you learn as a result of attending this event?

This can also be found on Google Forms: <https://goo.gl/forms/zPX2w4TDjiQrc0wA3>

Appendix E: Survey Responses

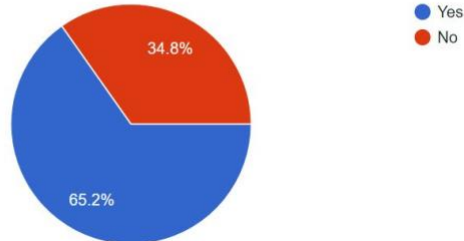
1. How old are you?

23 responses



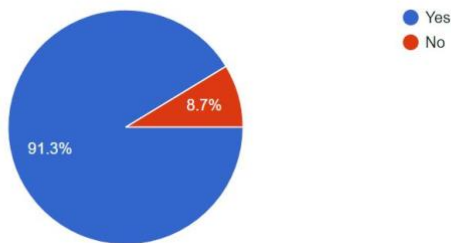
2. Do/did you consider yourself to be an academic?

23 responses



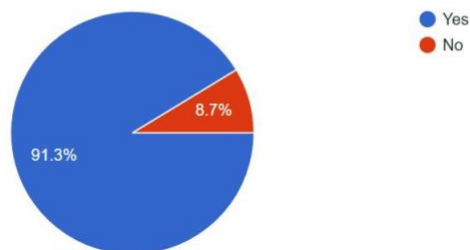
3. Did you find this event/website to be informative?

23 responses



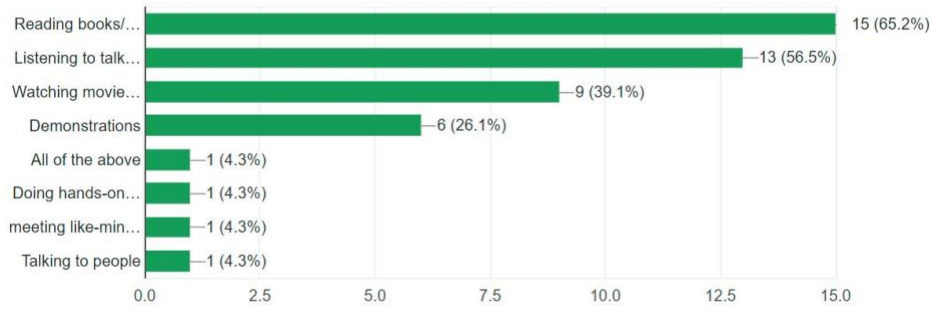
4. Before attending this event/viewing the website, did you have any knowledge about sustainability?

23 responses



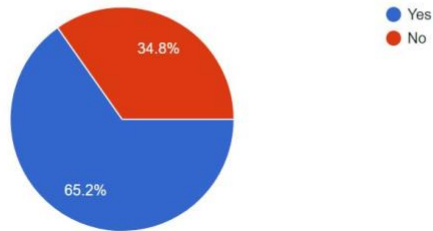
5. How do you best learn about new subjects?

23 responses



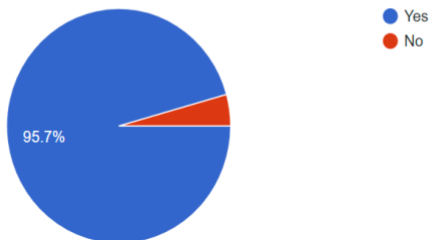
6. Did this event/website help you to understand concepts (such as sustainability, sustainable solutions, and food systems) of which you did not previously have an understanding?

23 responses



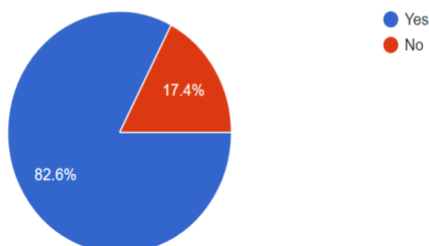
7. Do you believe that presenting these ideas through photographs allowed you to learn something you would not have otherwise?

23 responses



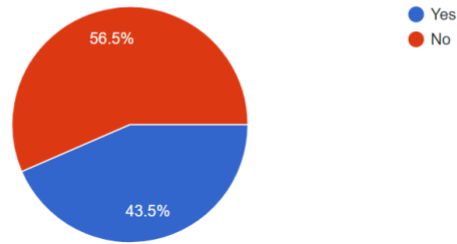
8. Before attending this event/viewing the website, did you know that there were community/urban gardens in the Phoenix metropolitan area?

23 responses



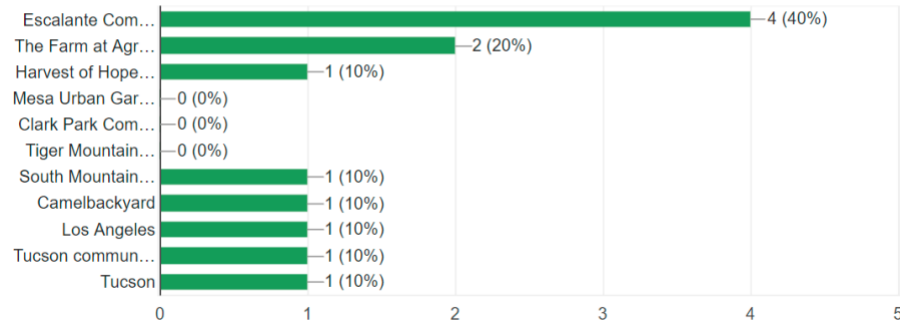
9. Before attending this event/viewing the website, were you involved in any community/urban gardens?

23 responses



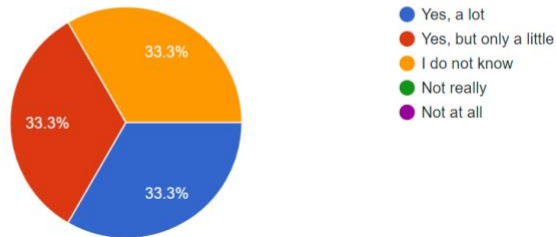
9a. If so, which one(s)?

10 responses



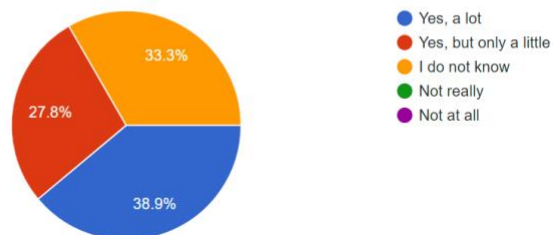
9b. Do you feel that being involved in community gardening has increased your happiness?

18 responses



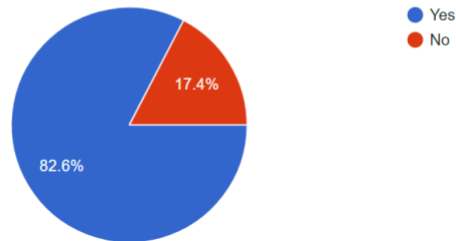
9c. Do you feel that being involved in community gardening has increased your overall well-being?

18 responses



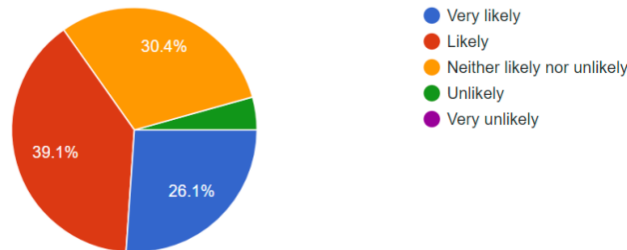
10. After attending this event/viewing the website, do you have an interest in becoming involved in community/urban gardens?

23 responses



11. After attending this event/viewing the website, how likely are you to become involved in community/urban gardens?

23 responses



12. What are your reasons for wanting or not wanting to become involved in community/urban gardens?

- I have space at home to garden
- Labor is not always shared equally; the weather here is awful; I am no longer near public transportation or walking distance to a garden
- Limited growing season in the Phoenix area and scarcity of water
- experiences, learn more knowledge
- I'm planning a garden in my yard
- Good retirement hobby.
- Right now I work full-time and go to school full-time, but once my schedule becomes less hectic, I would like to become involved in a community garden.
- Already involved
- I want to grow my own food and be a part of something- that would bring me happiness
- To learn more about gardening, increase access to fruits and vegetables
- I like getting free food, I like the community aspects, and the social aspects of making friends and meeting new people who are different from me but share my interests.
- Getting dirty!
- Community
- Time constraints but I'm interested in belonging to a community
- Increase happiness

- Community and well being. Gardening is peaceful and a therapy session. I feel accomplished when I grow my own food and happy I know where it comes from.
- I want to grow my own food and be a part of something
- Learning gardening, plants, soil, sustainability provide our own fresh food, teach my grandchild my interests to meet like-minded people and become involved with people and community
- community, being outside, love gardening

13. Briefly, what did you learn as a result of attending this event/viewing the website?

- Gardening is good for well-being in a number of different ways
- Greater appreciation for local beauty
- The existence of community gardens in various locations.
- interesting information
- Community members get more benefits from gardens than good, healthy food
- So many different kinds of plants are involved. Good job.
- I noticed that there were a wide range of people of different ethnicities and ages who all claim to benefit from community gardens, which makes an even greater case for community gardens being optimal spaces for social cohesion.
- Gardening is a great stress reliever and helps with protecting our youths' future.
- I learned that there are a lot of community garden opportunities no matter where I am. I also learned that if other people can get happiness from being involved in community gardens, then I can too!
- There are more community gardens in the Phoenix area than I thought
- Gardens are diverse yet similar no matter where you go in the world.
- Gardening is popular!
- The beauty and connection that photos can communicate.
- Community gardens can be exciting!
- How pictures can demonstrate a lot
- That here in the US we are not so different from other communities such as Denmark.
- community gardens in the area; how community affects happiness; pictures present ideas of culture within other customs
- that there are like-minded people who are encourage this and have resources to investigate; one thing leads to another
- resources to get involved; from photos - community garden plot ideas
- As a new comer in the community, I learn of information of availability of community garden

Appendix F: Visited Garden Identification and Contact Information

Garden	Location	Contact	Email	Website
Escalante Community Garden	Tempe, AZ	Theresa McKenzie	info@tempeaction.org	http://tempeaction.org/locations/escalante-community-garden/
Clark Park Community Garden	Tempe, AZ	Ken Perron	clarkparkgarden@gmail.com	http://tempeaction.org/locations/clark-park-community-garden/
Tiger Mountain Foundation	Phoenix, AZ	Darren Chapman	darren.chapman@tigermountainfoundation.org	http://tigermountainfoundation.org/
The Farm at South Mountain	Phoenix, AZ	Greg Brownell	info@thefarmatsouthmountain.com	https://www.thefarmatsouthmountain.com/
Byhaven 2200	Copenhagen, DK	N/A	styrelsen@byhaven2200.dk	http://www.byhaven2200.dk/
O-Haven	Aarhus, DK	Anders	anders@o-haven.dk	http://oehaven.dk/
Gallo Garden	Aarhus, DK	Anne Marie Bosley	gallogartneriet@gmail.com	http://www.gallogartneriet.dk/index.php/praktisk-information-64
Hospital Park	Aarhus, DK	Kristina Aachmann	info@have-marselis.dk	N/A
Greenshare Community Garden	Aarhus, DK	Lenore Messick	greensharegardeninfo@gmail.com	https://www.facebook.com/greensharegarden/

Appendix G: Website

<https://rachrosenstein.wixsite.com/msusproject>

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Jennifer Gallagher, event organization